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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/221,554 12/28/98 ARKLES B 08743-3U2

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EXAMINER

MOORE, M

ART UNIT

PAPER NUMBER

1712

DATE MAILED:

12/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/221,554

Applicant(s)

Arkles et al.

Examiner

Margaret Glass Moore

Group Art Unit

1712



☒ Responsive to communication(s) filed on Oct 2, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1 to 21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1, 2, 5, 8, 9, 11 to 19 is/are rejected.

☒ Claim(s) 3, 4, 6, 7, 10, 20 and 21 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1. Upon reconsideration and in view of applicants' remarks, the rejection over Sommer et al. has been withdrawn. As noted by applicants, there is no indication in Sommer et al. that the siloxane reaction product contains silanol groups. For instance note column 2 of page 1084. The fact that the final product contains such a large % of Cl atoms indicates that any unreacted (i.e. uncondensed) sites on the trichlorosilane will maintain the Si-Cl bond rather than undergoing hydrolysis to form a silanol group. Also, as noted by applicants, Sommer specifically mention the silanol groups formed as a result of the reaction of the polymer with alkali, but fail to teach or suggest a polymer having both silanol groups and the beta chloroethyl group.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 8, 11, 12, 14 and 16 to 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Schank.

The Examiner would first like to address the phrase, as used in the claim, "useful for preparing SiO₂ rich films". This does not mean that the prior art need teach the preparation of SiO₂ rich films, or even that any such film need be prepared by the method taught in applicants' specification. To meet this claim limitation, a siloxane polymer need only to be able to prepare

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SiO₂ rich films, by any method. Thus, note for instance that Schank, in Example IV, forms a film which contains silica, SiO₂. This will form a film that is SiO₂ rich.

With this in mind, the Examiner notes that applicants' traversal of this rejection is based on their interpretation of the future intended use phrase "useful for preparing SiO₂ rich films". However, since Schank incorporates SiO₂ into his films, the siloxane polymers taught therein are useful for preparing SiO₂ films, meeting this limitation. Even if such films were not considered to be SiO₂ rich films, applicants haven't shown that the siloxane in Schank is not useful for preparing such films. Rather, applicants merely state that Schank does not mention by product hydrogen cyanide. Arguments drawn to the questionable elimination of hydrogen cyanide appear to be merely a straw man. The claims do not require any particular conditions under which the SiO₂ rich films are to be made, and the claims do not require any type of thermal stability limitation for the polymers. Applicants' assumption that the siloxanes of Schank would not be useful in preparing any type of SiO₂ rich films appears to be an unsupported guess.

With regards to claim 8, the Examiner notes that upon hydrolysis and condensation, the hydrolyzable groups Cl and OR will form a comparable siloxane product, due to the formation of an Si-O-Si network. Thus, while Schank does not teach a trichlorosilane, the reaction product claimed appears to be inherently the same as the reaction product formed from a trialkoxysilane. As such, this product by process claim appears to be inherently met by Schank.

5. Claims 2, 5, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schank.

For the record, the Examiner notes that she has withdrawn claims 9 and 10 from this obviousness rejection. Upon reconsideration and in view of applicants' remarks, Schank does not provide sufficient motivation to form a reaction product meeting this silanol requirement.

With regards to claims 2 and 5, applicants note that they have eliminated chlorine as a substituent. However attention is again drawn to the formula on line 15 of column 6. As can be

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seen, the X group attached to the ethylene group (when CH₂ repeats twice) can be, alternatively, bromine, iodine or fluorine. This formula suggests beta iodoethylene, beta fluoroethylene and beta bromoethylene, which are within the scope of claims 2 and 5.

For reasons consistent with that noted in paragraph 4, *supra*, arguments relying on the “useful for making SiO₂ rich films” carry little weight in establishing an unobvious difference over Schank. Similarly the Examiner relies on the same rationale noted *supra* with regards to the formation of an equivalent product using chlorosilanes and alkoxysilanes.

6. Claims 1, 9, 11 to 13 and 15 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alekna for reasons of record.

Note that claims 2 and 5 have been withdrawn from this grounds of rejection for reasons consistent with those noted in applicants’ response.

Applicants state that Alekna does not suggest applicants’ siloxane polymer or the intended use thereof. While the Examiner agrees that Alekna does not suggest the same future intended use of the siloxane as applicants, patentee clearly suggests the same siloxane polymer. As noted previously, column 2, line 65, shows a siloxane polymer meeting that claimed. Since the siloxane suggested by Alekna has the same structure as that claimed, any thermal properties associated therewith will also be the same. Thus, since the beta chloroethyl siloxanes embraced by the claims are able to form SiO₂ rich films, the beta chloroethyl siloxane having the same formula and suggested by Alekna will inherently be able to form SiO₂ rich films. Again, applicants appear to be reading into the future intended use phrase in the claims some type of thermal stability limitation that simply is not present. Also note that a *prima facie* case of obviousness (for a composition) does not require the same problem or recognition of the same advantages as the applicants invention.

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7. For reasons noted, claims 3, 4, 6, 7 and 20^{and 21} are neither taught nor suggested by the prior art. Additionally, applicants' response has overcome all rejections of claim 10. These claims are objected to as being based on a rejected base claim, but would be allowable if rewritten or amended in independent form. mgm

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication should be directed to Margaret G. Moore at telephone number (703) 308-4334.

Any **official** documents (after final rejection) can be faxed to (703) **872-9310**. All other **official** faxes should be sent to (703) **872-9311**. Please do not send any informal communication or proposed amendments to this number.


Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
Dec. 6, 2000